



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

measurements are about the only means of distinguishing the males of the various forms of *A. phoeniceus*, we must rely upon them to determine this bird's relationship. The measurements given for *A. longirostris*—wing, 111; tail, 81; culmen, 27; depth of bill, 10; tarsus, 28—are sufficient to show that it is decidedly smaller with a longer and slenderer bill than the form described by Mr. Ridgway as *A. p. sonoriensis*. Five males of the latter from Culiacan, Sinaloa, Mexico, average: wing, 127; tail, 91; culmen, 22.5; tarsus, 31; and the smallest of the series measures, wing, 126; tail, 88; culmen, 23; tarsus, 31. South of Culiacan in Mexico the birds are still larger and to the north somewhat smaller, especially in Arizona, whence came the type of *A. p. sonoriensis*, but they never approach the dimensions given by Salvadori. After an examination of the considerable series of birds now available from various points in Arizona and western Mexico, from the Arizona border south to San Blas, Tepic, it is evident that the name *A. longirostris* cannot be properly applied to the bird named *A. p. sonoriensis* by Mr. Ridgway. It is very probable that the type of *A. longirostris* was attributed to western Mexico through some error in labeling.

---

## A REVIEW OF THE THREE-TOED WOODPECKERS OF NORTH AMERICA.

BY OUTRAM BANGS.

IN North America, as is well known, two very different kinds of Three-toed Woodpeckers are found. These are the *Picoides arcticus* series (black-backed Three-toed Woodpeckers), and the *Picoides americanus* series (black-and-white-backed Three-toed Woodpeckers). Both are boreal species and over a very large extent of country a representative of each occur together. Both species may be subdivided into geographical races—*P. arcticus* into two, *P. americanus* into four. Of these six races, one of *P. arcticus*, inhabiting the Cascade Mountains, and one of *P. americanus*, found in Labrador, have not before been recognized. There is furthermore a mistake in the synonymy of *P. americanus* which makes it necessary to give the form of northern New Eng-

land, etc., a new name. In view of these facts, it seems well to publish this short review of the whole group.

*Picoides arcticus* is a purely American type. *Picoides americanus*, on the other hand, is the American representative of the *P. tridactylus* group.

Hargitt in the 'Catalogue of the Birds in the Collection of the British Museum' (Vol. XVIII, 1890), recognizes, beside the very different *P. funebris* of "Monpin, and the high wooded mountains of Western China," but two Old World forms — *P. tridactylus*, which he accords an immense range, over Europe and Asia, and *P. tridactylus crissoleucus* of central and northern Siberia and Kamtschatka. Other authors have, however, at various times considerably subdivided these two.

Any of the forms of *P. americanus* can always be distinguished from *P. tridactylus* by the pattern of coloration of the 2d and 3d outer rectrices. In *P. tridactylus* these feathers are barred all the way across with black and white, the black bars being usually the wider, and the base of the feathers pure black. In *P. americanus* these feathers are pure white, somewhat marked or barred with black basally. *P. tridactylus crissoleucus* has the outer rectrices much less barred with black than in true *P. tridactylus*, and in this respect approaches *P. americanus*. It differs from *P. americanus* in being much whiter — the crown pure white in the female and the sides, etc., with scarcely any dusky markings.

Both these Old World forms are larger than any of the *P. americanus* series, except *P. americanus dorsalis*, which sometimes nearly equals them in wing measurement.

#### SYNONYMY.

*Picoides arcticus* has escaped synonyms. It was described by Swainson, in 1831, as *Picus (Apternus) arcticus* (F. B. A., II, Birds, pp. xxvi and 313, pl. 57, 1831), from "a male killed near the sources of the Athabasca River, lat. 57°."

There are, however, two races — the typical one, extending from the northern Rocky Mountains to the Atlantic; the other inhabiting the Cascades, and Sierra Nevada of California.

*Picoides americanus* has a complicated synonymy. In most recent works one finds the name *Picoides americanus* dating from

Brehm, Handb. Vög. Deutschl., p. 195, 1831. Upon looking up this reference I was astonished to find that Brehm's name is a *nomen nudum* and must therefore be dropped. As I believe the work is rare, only two hundred copies having been printed, it may be well to quote Brehm's words. After descriptions of several of his European species, follows in a separate paragraph:

"Ausser den beiden Arten gibt es noch eine Art in Norwegen, welche von diesen verschieden ist und von mir *Picoides septentrionalis* genannt wird und eine grössere ohne zweifel verschiedene in Amerika welche *Picoides americanus* heissen kann." Then in another paragraph he gives the description of *P. septentrionalis*.

As all the forms of *P. americanus*, except *dorsalis* of the southern Rocky Mountains, are much smaller than *P. tridactylus*, the one qualifying word in Brehm ("grössere") is wrong. If *P. americanus* was in reality larger than *P. tridactylus*, Brehm's name even then, in my opinion, should not be considered for an instant.

The first tenable name for an American black-and-white-backed Three-toed Woodpecker appears to be *Picus (Apternus) americanus*, Swainson, Classif. of Birds, II, p. 306, 1837, apparently proposed entirely independently of Brehm, and based upon his own beautiful accurate plate and minute description of *Picus (Apternus) tridactylus* in Swainson and Richardson's F. B. A., II, Birds, pp. 311-312, pl. 56, species 104, 1831, "A male, killed near the sources of the Athabasca River, lat. 57°." This form has since been twice renamed, as follows: *Picoides americanus* var. *fasciatus* Baird, Cooper's Birds of Calif., I, pp. 385-386 (figure of head), 1870, from Fort Simpson, lat. 64°, and *P. tridactylus alascensis* Nelson, Auk, I, p. 165, 1884, from Fort Reliance, lat. (about) 67°.

The two forms of eastern North America — one in Labrador, the other in northern New England, etc. — appear to both need names, those heretofore used for them being untenable.

*Tridactylia undulata* Cab. & Heine, Mus. Hein., IV, p. 28, 1863, is not admissible, having been, together with several other names (*P. undatus* Temm. and *P. undosus* Cuv.) based on Brisson's *Pic varié de Cayenne*.<sup>1</sup>

<sup>1</sup> Pl. Enl. 553 shows a bird with a red top to its head and four toes, two behind, two in front.

*Picus hirsutus* Vieill., Ois. de l'Am., II, p. 68, pl. 124, 1807 (*Tridactyla hirsuta* Steph., Shaw's Gen. Zool., IX, p. 219, pl. xxxviii, 1815), in part refers to an American form, though the figures and descriptions were evidently taken from an Old World specimen. This name has been used for an American bird by Wagler, Audubon, De Kay and others.

The form found in the southern Rocky Mountains stands as usually given — *P. americanus dorsalis* — though its northward range, as usually given, should be somewhat curtailed. It was described by Baird as *Picooides dorsalis* (B. N. A., p. 100, 1858), from Laramie Peak, Wyoming.

#### MATERIAL.

Dr. Robert Ridgway has kindly sent me all the skins of *P. americanus* contained in the National Museum from points in Alaska and the Northwest Territory, including the types of *P. americanus fasciatus* Baird and *P. tridactylus alascensis* Nelson; the series numbering 37 skins and fully proving that true *americanus, fasciatus* and *alascensis* are all the same.

I have also examined the large series of *Picooides* in Mr. William Brewster's collection, and a few skins in the collection of the Museum of Comparative Zoölogy at Cambridge. These, with the material in my brother's and my collection, and a series of specimens from northern Labrador lent me by Mr. J. D. Sornborger, makes a fine suite of specimens that leaves little to be desired.

The only region from which I have seen no skins is the central portion of Arctic America, where true *P. americanus* and its eastern races might be expected to intergrade.

I have also seen but two examples of *P. tridactylus*, both females; these two, however, are quite enough to show the differences between the Old World and the American forms.

#### *Picooides arcticus arcticus* (Swainson).

*Picus (Apternus) arcticus* SWAINSON, in Sw. and Rich. F. B. A. II, p. 313, plate, 57, 1831.

*Picooides arcticus* GRAY, Gen. B. I, p. 434, 1845.

*Type Locality.* — Sources of the Athabasca River, lat. 57°, N. W. T.

*Geographic Distribution.*—Boreal America, from Newfoundland and southern Labrador west across the northern Rocky Mts. to Alaska, south to Minnesota and New York and casually to Massachusetts. A common species everywhere in the spruce and fir forest.

*Specimens examined.*—Total number 58; from the following localities.

**Labrador:** Bechoine, 1; Makkovik, 1.

**Newfoundland:** Codroy, 9; Flat Bay, 1.

**New Brunswick:** Milltown, 2; Restigouche River, 4.

**Maine:** Bangor, 2; Greenville, 1; Kathardine Iron Works, 2; Upton, 9; Lake Umbagog, 12; Oxford Co., 3.

**New York:** Lyonsdale, Lewis Co., 1.

**Michigan:** Cadillac, 3.

**Montana:** Fort Shaw, 1.

**Alberta:** Red Deer, 5.

**Massachusetts:** Wareham, 1.

*General Characters.*—Size large (wing of adult ♂, 128.5 mm., of adult ♀, 124 mm.); back wholly shining blue-black; a narrow white frontal band; primaries not tipped with white; ♂ with a yellow crown patch; bill large and broad.

*Color.*—Upper parts shining blue-black, rump feathers with usually a few semi-concealed white spots; a narrow white frontal band; a short, narrow, white postocular stripe; a broad white malar stripe, meeting white frontal band, bordered by a black submalar stripe; nasal plumes mixed black and whitish; wings jet black, with little lustre; primaries spotted and notched with white, but without white tips; secondaries and tertials spotted on inner webs with white; wing-coverts unspotted; when wing is closed no white spots show except those on primaries; below white, heavily marked on sides and flanks with dusky; 2d and 3d rectrices barred and mottled basally with black, clear white (usually stained) for more than half their length; 4th rectrix black basally and at extreme tip, white for a short distance below tip, rest of tail black. Adult ♂ with a bright yellow crown patch, usually cadmium yellow, but in some specimens (young birds in first autumn or winter?) much paler; adult ♀ with whole top of head blue-black, except for white frontal band.

*Remarks.*—*P. arcticus* can at once be told from any other three-toed Woodpecker by its wholly blue-black back.

It has an enormous range over which it does not vary at all, specimens from the northern Rocky Mountains being indistinguishable from birds taken in New Brunswick and Maine, and even Newfoundland. Some males in autumn or winter have pale yellow crown patches. As it happens, I have seen more of these from Newfoundland than elsewhere, but the adult males in spring from Newfoundland have the crown patch dark yellow, and I

have examined a few skins from other places with light yellow crown patches. It is probably a character of the young male, though I have not seen enough carefully dissected specimens to be sure of this.

The range of seasonal variation in *P. arcticus* is likewise small. Winter specimens are, of course, in a fuller and longer plumage than summer ones, and examples in worn, faded mid-summer plumage are somewhat browner on the back and wings.

In the Cascade Mountains and Sierra Nevada of California true *P. arcticus* is replaced by a form having a peculiarly slender bill.

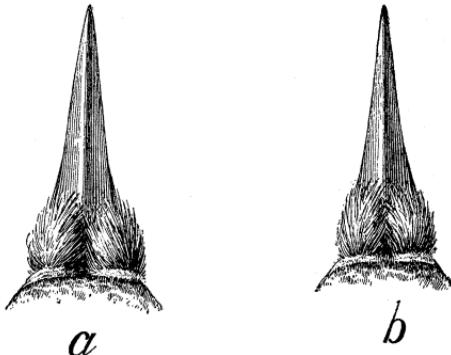
### *Picoides arcticus tenuirostris*, subsp. nov.

*Type*, from Fort Klamath, Oregon, No. 19576, ♂ adult, Coll. of Wm. Brewster. Collected Dec. 13, 1886, by Dr. J. C. Merrill, U. S. A.

*Geographic Distribution*.—Cascade Mountains and Sierra Nevada of California, south to Lake Tahoe.

*Specimens examined*.—Total number, 4; all from the type locality.

*Subspecific characters*.—Averaging a little larger than true *P. arcticus* (wing of adult ♂, 130.5 mm., of adult ♀, 125 mm.); similar to true *P. arcticus* in color, except that the nasal plumes are blacker—less mixed with white; differing widely from true *P. arcticus* in the shape of the bill, which is long and extremely slender (greatest width of bill in true *P. arcticus*, ♂ ad. being 11.2 mm.; in *P. arcticus tenuirostris* ♂ ad. 8.8 mm.). See cut.



A. Bill of *P. arcticus arcticus* (No. 4525, Bangs Coll., from Red Deer Alberta, ♂ ad.).

B. Bill of *P. arcticus tenuirostris*. (Type, ♂ ad.).

*Remarks*.—That such a stable species as true *P. arcticus*, which does not vary from the Atlantic to the Rocky Mountains,

[Auk  
April]

should suddenly break off into this peculiar slender-billed form in the Cascades is remarkable, and it is possible that *P. arcticus tenuirostris* is in reality an isolated species cut off geographically from the range of true *P. arcticus*.

The four skins I have seen, all from the type locality, are all alike, and in a large series of true *P. arcticus* there is not a single specimen that even approaches them in the shape of the bill.

### *Picoides americanus americanus* (*Swainson*).

*Picus (Apternus) americanus* SWAINSON, Classif. of Birds, II, p. 306, 1837. Based upon plate and description of *Picus (Apternus) tridactylus* in Swains. & Rich. F. B. A. pp. 311-312, pl. 56, 1831. (Sources of the Athabasca River, N. W. T.)

*Picoides americanus* var. *fasciatus* BAIRD, Cooper's B. of Calif. I, pp. 385-386 (figure of head), 1870. (Fort Simpson, N. W. T.)

*Picoides tridactylus alasensis* NELSON, Auk, p. 165, 1884. (Fort Reliance, N. W. T.)

*Picoides americanus alasensis* (NELSON) No. 401a of the A. O. U. Check-List.

*Type Locality*.—Sources of the Athabasca River, N. W. T., lat. 57°.

*Geographic Distribution*.—Western boreal America and Alaska, south to Montana, Idaho and Assiniboa, in the Cascade Mountains, to the Washington line (49th Paral.), and on the coast at least to Saturna Island.

*Specimens examined*.—Total number, 45; from the following localities.

**Alaska:** Nulato, 6; Fort Yukon, 6; Yukon River, mouth of Porcupine River, 1; Fort Kenai, 3; Kodiak, 2; Nushagak River, 1; Unalaklik, 1; Putnam, 1.

**Northwest Territory:** Fort Reliance, 2 (including the type of *alascensis*); Fort Liard, 4; Fort Simpson, 3 (including the type of *fasciatus*); Fort Anderson, 2; Chiloweynck Lake, 2.

**Alberta**: Red Deer, 1.

**Assiniboa**: Near Grenfell, 1.

**British Columbia**: Cascade Mts., 49th Par., 3; Saturna Island, 2.

**Idaho**: West slope Bitterroot Mts., 1.

**Montana**: Columbia Falls, 3. (These three pretty typical *americanus* while two more from the same place approach *dorsalis*, one of them, in fact, being best referred to that race, except that it is smaller.)

*General Characters*.—Size small (wing of adult ♂, 117 mm., of adult ♀, 114 mm.). Ground color of back and wings brownish black, of head shining blue-black; back black and white—sometimes continuously white along middle line, but more often barred across with black and white, the white predominating; a white postocular stripe meeting white of nape; a white malar stripe; rump and upper tail-coverts usually barred or spotted with white; wings much spotted and notched with white—

the primaries tipped with white, and the wing-coverts frequently irregularly spotted with white; top of head much spotted or freckled with white; crown patch of ♂ bright yellow (lemon yellow to chrome, occasionally cadmium); sides, etc., heavily barred with dusky; 2d and 3d rectrices white, irregularly barred toward base of feathers with black.

Winter specimens, usually with more white above than summer specimens.

*Color.*—Ground color of back and wings brownish black, of head shining blue-black; nape white; back, from nape to rump, mixed black and white—the white usually predominating, but the pattern very variable—in some specimens the back is continuously white along middle line, in others the whole region is barred across with black and white; upper tail-coverts usually, but not always, irregularly spotted or barred with white; a white postocular stripe meeting white of nape; a white malar stripe, bordered by a black sub-malar stripe; auriculars and cervix shining blue-black; top of head (more noticeable in the ♀) heavily freckled with white—in many examples the white in excess of the black; nasal plumes mostly whitish, a few only being dusky; wings brownish black, primaries, secondaries and tertials conspicuously tipped, spotted and notched with white; wing-coverts often (but by no means always) irregularly spotted with white—the pattern often different on the opposite feathers; when closed, the wing shows much white; below white heavily barred on sides and flanks with dusky; under tail-coverts, white at ends, dusky at base, and sometimes barred; three outer rectrices white (usually stained, yellowish-brown) at ends, barred very irregularly, lower down the feathers with half bars and spots of black; 4th rectrix black with white end and one or two white spots lower down the feather; four middle rectrices black with a few white notches on both webs. Adult ♂ with a bright yellow crown patch, usually about chrome, though sometimes lemon yellow and sometimes cadmium; adult ♀ with whole top of head blue-black heavily freckled with white.

*Remarks.*—True *Picooides americanus* has a wide range through the western Fur Countries and Alaska and is a very variable bird. The variations, though partly seasonal, are to a great extent individual and consist in the greater or less amount of white in the back, head and wings.

The species has a curious history. It was at first confused with the Old World *P. tridactylus*, but in recent works has appeared as *P. americanus* Brehm. Brehm's name proves to be a *nomen nudum* and the species dates from Swainson, who figured and described the same form, afterwards named *fasciatus* by Baird, and still later *alascensis* by Nelson. The fine series before me proves conclusively that these three names apply strictly to one geographical form.

A fairly large series of skins from any one place within the range of the form will be sure to cover the whole range of variation. Thus the type of *alascensis*, from Fort Reliance, N. W. T., an adult ♂, killed in November, is one of the whitest examples before me — the whole back and rump are continuously white, the wings are very heavily marked with white and the wing-coverts thickly spotted, the upper tail-coverts are barred with white and the top of the head is more white than black, the crown patch is pale lemon yellow; on the other hand, No. 78614 from the same place, an adult ♂, also taken in November, stands at the opposite end of the range of variation; — the back is barred across with black and white in about equal amounts, the wing spots are all small and inconspicuous, the wing-coverts are unspotted, the upper tail-coverts with only one or two small white spots, and the head with but few white freckles; the crown patch is deep chrome. This specimen is a pretty good match for Swainson's plate of his type, except that it has the white bars on the back narrower than those of Swainson's figure. A series of six skins from Fort Yukon, and another of four skins from Fort Liard, each include examples of the whitest and of the darkest style. The two blackest specimens in the large series from the Northwest, are an adult ♀ taken Dec. 12 at Fort Simpson (No. 19426), and an adult ♀ taken Sept. 18 at Fort Yukon (No. 73378). These two are very similar; both have the minimum amount of white on the back and wings, unspotted wing-coverts, no white markings on upper tail-coverts, and the head in both is clear blue-black without white freckles. No. 19426 has the white postocular stripe, but even this is wanting in No. 73378, which might well pass for an eastern bird, having much the general appearance of specimens from Labrador.<sup>1</sup>

As a rule summer specimens are blacker than winter ones, but individual variation is so great that this does not always hold true.

In the southern Rocky Mountains true *P. americanus* is replaced by a much larger form, *P. americanus dorsalis*, having the

---

<sup>1</sup>This skin was collected by Turner, and may be wrongly labeled, through some accident, as Turner collected both in Labrador and Alaska.

back always continuously white along the middle line. The two apparently intergrade in Montana.

In eastern North America true *P. americanus* is replaced by two races, one in Labrador the other in northern New England, etc. From either of these true *americanus* differs in the much greater amount of white in the upper parts, and in having a white postocular stripe. In the eastern forms this stripe is either wholly absent or indicated by an occasional isolated white feather or two. I do not know exactly where the eastern races meet true *P. americanus*, there being a dearth of specimens from the central portion of Arctic America.

In the Bangs Collection there are two examples of *P. americanus* from Saturna Island, B. C., that in every way are referable to the typical subspecies, except that the under parts are not pure white, but are pinkish smoke-gray—one skin showing this more strongly than the other. This coloring of the under parts is occasionally shown by eastern birds and may be due to staining.

### *Picoides americanus dorsalis Baird.*

*Picoides dorsalis* BAIRD, B. N. A., p. 100, 1858.

*Picoides americanus* var. *dorsalis* BAIRD, Cooper's B. Calif., p. 386, 1870.

*Type Locality*.—Laramie Peak, Wyoming.

*Geographic Distribution*.—Southern Rocky Mountains, from New Mexico north to Montana, where intergradation takes place with true *americanus*.

*Specimens examined*.—Total number, 12; from the following localities.

**New Mexico**: Santa Fé Mountains, 1.

**Colorado**: Platte Cañon, 3; Jefferson Co., 2; Silverton, 1; Stony Gulch, 2; Beulah, 1.

**Montana**: Columbia Falls, 2 (intergrades; except in size, nearer *dorsalis* than true *americanus*).

*Subspecific characters*.—Size largest of the *americanus* series (wing of adult ♂, 126 mm., of adult ♀, 121 mm.); ground color of back and wings brownish black, of head shining blue-black; back from nape to rump continuously white along middle line, *not* barred across with black; white postocular and malar stripes broad and conspicuous; white markings and spots on primaries, secondaries and especially on inner webs of tertials, large; no white spots on wing-coverts; upper tail-coverts usually unspotted; top of head but little freckled with white; sides and flanks with fewer dusky markings, which are more like spots, less like

bars, than in true *americanus*; pattern of 2d and 3d rectrices usually, but not always, different from that of the other forms of the *americanus* series, the 2d rectrix being black basally, then white, and the 3d rectrix black for its basal half, then white, both feathers otherwise unbarred, though occasionally there is a white spot or two in the black basal portion, in both feathers the white extends down beyond the black on both outer and inner edges. In true *americanus* the 2d and 3d rectrices are usually spotted and half barred with black basally. Adult ♂ with a yellow crown patch, about chrome, smaller in extent and more mixed with black than is the crown patch in the other forms; adult ♀ with the whole top of the head shining blue-black, but little freckled with white. Bill usually longer and stouter than in any other forms of *americanus*.

*Remarks.* — *P. americanus dorsalis* is a large, alpine form of *americanus* inhabiting the southern Rocky Mountains. Montana appears to be the dividing line between it and true *americanus* and here at one place — Columbia Falls — one may get examples that approach true *americanus*, and others that are hardly distinguishable from *dorsalis*, except that all the Montana specimens are rather smaller than birds from farther south.

*P. americanus dorsalis* can always be told from true *americanus* by its larger size, stouter, longer bill, whiter — less marked with dusky — sides and the longitudinal white striping of the back. The smaller crown patch of the ♂ and the different pattern of the outer tail-feathers are additional characters that usually but not always distinguish this race from true *americanus*.

In any large series of true *americanus*, there will be sure to be some skins with the back continuously white and not barred with black; these have a look of *P. americanus dorsalis*, but their smaller size and shorter, lighter bills show they are not that form; the white portion of the back is also wider than in *P. americanus dorsalis*.

#### *Picoides americanus bacatus*,<sup>1</sup> subsp. nov.

*Picoides americanus* BREHM, No. 401, A. O. U. Check-List.

*Type.* — From Bangor, Maine, No. 802, ♂ adult, Coll. of E. A. and O. Bangs. Taken by E. S. Bowler, March 25, 1884; skinned and sexed by E. A. Bangs.

*Geographic Distribution.* — Eastern boreal America south of the St. Lawrence — south to the mountains of New York and rarely or casually

<sup>1</sup> *Bacatus*, set with pearls. On account of the white of the back being reduced, in this form, to a series of spots.

to Massachusetts. Of rather local distribution throughout the spruce and fir forest, but commoner in the mountains than in the lowland forest.

*Specimens examined.*—Total number 21; from the following localities.

**Maine:** Bangor, 6; Mt. Katahdin, 1; Lake Umbagog, 5; Attian Pond, Moose River, 1; Upton, 1; Oxford Co., 1.

**New Hampshire:** Connecticut Lake, 1; Mt. Washington, 1; White Mountains, 1; Megalloway R., 2; Gorham, 1.

*Subspecific characters.*—Smallest of the *americanus* series (wing of adult ♂, 113.5 mm.; of adult ♀, 110 mm.); ground color of back and wings brownish black, of head shining blue-black; all the white markings on back much reduced, being usually a series of white spots confined to center of back from nape to rump; upper tail-coverts and wing-coverts usually unspotted (occasionally a few small, white spots on upper tail or wing-coverts or both); postocular stripe (so conspicuous in true *americanus*) wholly absent or indicated by only a few scattering white feathers; white malar stripe narrower than in true *americanus*; white markings on primaries, secondaries and tertials fewer and smaller; top of head in both sexes much less heavily freckled with white; adult ♂ with a bright yellow crown patch, about gamboge yellow;<sup>1</sup> otherwise similar to true *P. americanus*.

*Remarks.*—*P. americanus bacatus* is not a common bird in collections and much is still to be learned concerning its exact distribution. Most of the recorded specimens come from Maine, New Hampshire, and the Adirondack region of New York.

*P. americanus bacatus* is subject to much less variation, both individual and seasonal, than true *americanus*. There is, however, a slight amount of individual variation in the white markings above, some specimens showing a few white spots on the upper tail-coverts and wing-coverts, though these parts are usually black. The postocular stripe is more strongly indicated in some examples than in others, and the amount of white on the nape varies a little. This form can always be told from true *americanus* by the less amount of white everywhere above. It also averages smaller.

North of the St. Lawrence, becoming more and more strongly characterized as it extends up the Labrador coast, is a larger and much blacker form. This form and *P. americanus bacatus* appear to intergrade in Quebec. Where either of these eastern forms

<sup>1</sup> Young females, in nestling plumage, have a yellow crown patch, smaller than that of the adult male. I have seen nestlings of this form only, but probably the young female in other forms also has the yellow crown patch.

intergrade with true *americanus* is not known to me, but it is probably somewhere in northwestern Ontario.

**Picoides americanus labradorius**, subsp. nov.

*Type*, from Okak, Labrador, No. 1365, ♂ adult, Coll. of J. D. Sornborger. Collected, June, 1895, by C. Schmitt.

*Geographic Distribution*.—Whole Labrador peninsula, north to tree limit, south into Quebec. Exact western limit of range unknown.

*Specimens examined*.—Total number 33; from the following localities.

**Labrador**: Okak, 8; Nain, 4; Hopedale, 3; Makkovik, 4; (northern Labrador), 1; Black Bay, 2; Lance au Loup, 2.

**Quebec**: Chaunay, 8 (not typical).

**Anticosti Island**: 1, (♀ juv., nestling plumage, probably this form).

*Subspecific characters*.—Larger than *P. americanus bacatus*, nearly equaling in size *P. americanus americanus* (wing of adult ♂, 116 mm.; of adult ♀, 113 mm.); ground color of back and wings jet black (brownish black in *P. americanus bacatus*), of head dark shining purplish blue-black, the shining blue-black of head reaching farther backward, covering sides of neck, nape and shoulders, and in fresh plumage often the whole back; all the white markings on back and wings even more reduced than in *P. americanus bacatus*; primaries sometimes not tipped with white, and the white spots on back, wings and head smaller and fewer; sides and flanks much more heavily marked with black—the markings themselves blacker and the pattern coarser; tail usually more barred with black, the second and third rectrices sometimes being barred nearly to the ends of the feathers; crown patch of ♂ darker yellow, about ochre yellow (that of *P. americanus bacatus* being about gamboge yellow).

*Remarks*.—*Picoides americanus labradorius* is the blackest of the American black-and-white-backed three-toed Woodpeckers, the ground color of the back being often as black and as shining as in *P. arcticus*. It differs noticeably from *P. americanus bacatus*, the only form with which it needs comparison, in its deep black wings and back, the heavy markings on the sides, and the darker yellow crown patch of the males, besides being a good deal larger.

*P. americanus labradorius* is generally distributed over eastern Labrador north to tree limit, and extends south into Quebec, becoming less well marked southward. A series in Mr. Brewster's Collection from Chaunay, Quebec, I refer to this form. They average smaller, however, than birds from northeastern Labrador, but their backs are much blacker and the crown patch of the males darker yellow than in *P. americanus bacatus*. Taken all together they are evidently intergrades, though nearer the northern than the southern form.

MEASUREMENTS OF *Picoides arcticus arcticus* (SWAINSON).

| No.                | Sex. | Locality.             | Wing. | Tail. | Tarsus. | Culmen. |
|--------------------|------|-----------------------|-------|-------|---------|---------|
| 4648 <sup>1</sup>  | ♂    | Mont., Fort Shaw.     | 129   | 80    | 23      | 36      |
| 4752 <sup>9</sup>  | ♂    | Alberta, Red Deer.    | 130   | 75    | 24      | 34      |
| 4525 <sup>2</sup>  | ♂    | " " "                 | 129   | 77    | 23.2    | 36      |
| 4526               | ♂    | " " "                 | 129.5 | 82    | 23.2    | 34.5    |
| 18635 <sup>1</sup> | ♂    | Mich., Cadillac.      | 128   | 81    | 23      | 33      |
| 18636              | ♂    | " "                   | 127   | 80    | 23      | 35      |
| 9845               | ♂    | Lab., Bechoine.       | 131   | 79.5  | 24      | 34      |
| 46283              | ♂    | Nfl'd, Codroy.        | 129   | 80    | 23      | 34      |
| 46284              | ♂    | " "                   | 128   | 79    | 23.2    | 34      |
| 46287              | ♂    | " "                   | 130   | 77.5  | 23.8    | 35      |
| 46288              | ♂    | " "                   | 130   | 75    | 23.4    | 36      |
| 46402              | ♂    | N. B., Milltown.      | 131   | 82    | 24      | 36      |
| 4520 <sup>2</sup>  | ♂    | N. B., Restigouche R. | 127   | 81    | 24      | 35      |
| 4521               | ♂    | " " "                 | 126.5 | 77    | 23.2    | 33      |
| 4522               | ♂    | " " "                 | 129   | 82    | 23.2    | 33      |
| 800                | ♂    | Me., Bangor.          | 128.5 | 82    | 24      | 36      |
| 30207 <sup>1</sup> | ♂    | Me., Lake Umbagog.    | 129   | 78    | 24      | 34.5    |
| 4510               | ♂    | " " "                 | 128.5 | 78    | 24      | 34.5    |
| 30350              | ♂    | " " "                 | 129.5 | 79.5  | 23.4    | 36      |
| 4524 <sup>2</sup>  | ♂    | Alberta, Red Deer.    | 127   | 79    | 22      | 33      |
| 4527               | ♂    | " " "                 | 124   | 80    | 22      | 33      |
| — <sup>3</sup>     | ♂    | Lab., Makkovik.       | 125   | 82    | 22      | 32.5    |
| 46289 <sup>1</sup> | ♂    | Nfl'd, Codroy.        | 124.5 | 77    | 21.6    | 32      |
| 46290              | ♂    | " "                   | 123   | 78    | 21.4    | 30      |
| 46403              | ♂    | N. B., Milltown.      | 123.5 | 78    | 23      | 31.5    |
| 801 <sup>2</sup>   | ♂    | Me., Bangor.          | 126   | 80    | 21.8    | 32      |
| 11970 <sup>1</sup> | ♂    | Me., Lake Umbagog.    | 124   | 80    | 21      | 31.5    |
| 8109               | ♂    | " " "                 | 123   | 78    | 22      | 31      |
| 30208              | ♂    | " " "                 | 123   | 77    | 22      | 32      |
| 10949              | ♂    | " " "                 | 124.5 | 76.5  | 23      | 32      |

MEASUREMENTS OF *Picoides arcticus tenuirostris* BANGS.

| No.                | Sex.     | Locality.            | Wing. | Tail. | Tarsus. | Culmen. |
|--------------------|----------|----------------------|-------|-------|---------|---------|
| 19576 <sup>4</sup> | ♂ (Type) | Oregon, Ft. Klamath. | 132   | 83.5  | 22.6    | 36      |
| 19577              | ♂        | " " "                | 129   | 80    | 22.2    | 35      |
| 19578              | ♂        | " " "                | 125   | 81    | 22.2    | 33      |
| 26263              | ♀        | " " "                | 125.5 | 84    | 21.8    | 33      |

<sup>1</sup> Coll. of Wm. Brewster.<sup>2</sup> Coll. of E. A. & O. Bangs.<sup>3</sup> Coll. of J. D. Sornborger.<sup>4</sup> Coll. of Wm. Brewster.

MEASUREMENTS OF *Picoides americanus americanus* (SWAINSON).

| No.                 | Sex. | Locality.                      | Wing. | Tail. | Tarsus. | Culmen. |
|---------------------|------|--------------------------------|-------|-------|---------|---------|
| 49905 <sup>3</sup>  | ♂    | Alaska, Nulato.                | 116   | 77    | 20.2    | 29      |
| 70809               | ♂    | " "                            | 117.5 | 74    | 20.4    | 30.5    |
| 49896               | ♂    | " "                            | 116   | 73    | 19.6    | 28      |
| 73376               | ♂    | Alaska, Ft. Yukon.             | 118   | 79    | 20.6    | 30      |
| 76059               | ♂    | " " "                          | 117   | 73    | 20.2    | 29.5    |
| 124583              | ♂    | " " "                          | 117   | 76    | 20      | 29.5    |
| 58717               | ♂    | Alaska, Ft. Kenai.             | 116.5 | 72    | 20.4    | 30      |
| 95273               | ♂    | Alaska, Kadiak.                | 116   | 72    | 20.6    | 29      |
| 78614               | ♂    | N. W. T., Ft. Reliance.        | 119   | 79    | 20      | 30      |
| 78615 <sup>4</sup>  | ♂    | " "                            | 117   | 75    | 20      | —       |
| 19481               | ♂    | N. W. T., Ft. Liard.           | 115   | 73    | 19      | 31      |
| 19414               | ♂    | " " "                          | 121   | 77    | 20      | 30.5    |
| 19423               | ♂    | " " "                          | 116   | 73.5  | 20      | 29.5    |
| 27126 <sup>5</sup>  | ♂    | N. W. T., Ft. Simpson.         | 118   | 75.5  | 20      | 30      |
| 43175               | ♂    | N. W. T., Ft. Anderson.        | 118   | 77    | 19      | 31      |
| 1511 <sup>2</sup>   | ♂    | Assiniboia, Grenfell.          | 116.5 | 72.5  | 20      | 30      |
| 4509                | ♂    | B. C., Saturna Island.         | 117   | 75    | 20.2    | 29      |
| 4510                | ♂    | " " "                          | 117.5 | 73    | 20.2    | 30.5    |
| 131496 <sup>3</sup> | ♂    | Mont., Columbia Falls.         | 118   | 78    | 20.4    | 30      |
| 47299 <sup>1</sup>  | ♂    | " " "                          | 115   | 73.5  | 21.6    | 30      |
| 47300               | ♂    | " " "                          | 116   | 76    | 20.4    | 30      |
| 1510 <sup>2</sup>   | ♂    | " " "                          | 117   | 70    | 20.8    | 31      |
| 70808 <sup>3</sup>  | ♂    | Alaska, Nulato.                | 112   | 74    | 19.6    | 27.5    |
| 78618               | ♂    | " "                            | 115   | 74    | 19.2    | 26.5    |
| 49894               | ♂    | " "                            | 113   | 75    | 19.4    | 28      |
| 73378               | ♂    | Alaska, Ft. Yukon.             | 112.5 | 74.5  | 19.8    | 27.5    |
| 70812               | ♂    | " " "                          | 112   | 72    | 19.8    | 27.5    |
| 124584              | ♂    | " " "                          | 112   | 75.5  | 19.8    | 27.5    |
| 58719               | ♂    | Alaska, Ft. Kenai.             | 114   | 73.5  | 19.4    | 29      |
| 54241               | ♂    | Alaska, Kadiak.                | 112.5 | 77    | 20      | 26.5    |
| 19413               | ♂    | N. W. T., Ft. Liard.           | 112   | 74    | 18.6    | 26      |
| 19426               | ♂    | N. W. T., Ft. Simpson.         | 115.5 | 76    | 19.6    | 26      |
| 22599               | ♂    | " " "                          | 116.5 | 73    | 19      | 26.5    |
| 43176               | ♂    | N. W. T., Ft. Anderson.        | 113.5 | 76.5  | 20      | 27      |
| 47358 <sup>1</sup>  | ♂    | B. C., Cascade Mts., 49th Par. | 113   | 71    | 19.6    | 27.5    |
| 45600               | ♂    | " " " " "                      | 110.5 | 69    | 19.2    | 27      |
| 131497 <sup>3</sup> | ♀    | Mont., Columbia Falls.         | 117   | 73    | 20      | 26.5    |

<sup>1</sup> Coll. of Wm. Brewster.<sup>4</sup> Type of *alascensis*.<sup>2</sup> Coll. of E. A. & O. Bangs.<sup>5</sup> Type of *fasciatus*.<sup>3</sup> Coll. of U. S. National Museum.

(NOTE: The specimens from Columbia Falls, Montana, are all referable by measurements to *P. americanus americanus*; two out of the five, however, in all other respects are nearer to *P. americanus dorsalis*.

MEASUREMENTS OF *Picoides americanus dorsalis* BAIRD.

| No.                | Sex. | Locality.            | Wing. | Tail. | Tarsus. | Culmen. |
|--------------------|------|----------------------|-------|-------|---------|---------|
| 9818 <sup>1</sup>  | ♂    | N. M., Santa Fé Mts. | 127   | 76    | 21.6    | 32      |
| 46400              | ♂    | Col., Stony Gulch.   | 126   | 78    | 21.2    | 30      |
| 805 <sup>2</sup>   | ♂    | Col., Platte Cañon.  | 127   | 76    | 21.8    | 32      |
| 1512               | ♂    | Col., Jefferson Co.  | 124   | —     | 20.4    | 32      |
| 1513               | ♂    | Col., Beulah.        | 125   | 76    | 20.4    | 31.5    |
| 46401 <sup>1</sup> | ♂    | Col., Stony Gulch.   | 124   | 79    | 20.6    | 29      |
| 9913               | ♂    | Col., Platte Cañon.  | 119   | 76    | 20.2    | 29.5    |
| 804 <sup>2</sup>   | ♂    | " "                  | 123.5 | 76.5  | 21      | 31      |
| 26036 <sup>1</sup> | ♂    | Col., Jefferson Co.  | 118   | 73.5  | 20.8    | 29      |
| 9904               | ♀    | Col., Silverton.     | 121   | 81    | 21      | 30      |

MEASUREMENTS OF *Picoides americanus bacatus* BANGS.

| No.                | Sex.     | Locality.                  | Wing. | Tail. | Tarsus. | Culmen. |
|--------------------|----------|----------------------------|-------|-------|---------|---------|
| 802 <sup>4</sup>   | ♂ (Type) | Me., Bangor.               | 113   | 75    | 20.2    | 28.5    |
| 4531               | ♂        | " "                        | 111   | 72    | 20      | 29.5    |
| 4532               | ♂        | " "                        | 112   | 73.5  | 20.4    | 29      |
| 30209 <sup>3</sup> | ♂        | Me., Lake Umbagog.         | 113   | 72    | 20      | 29      |
| 26281              | ♂        | " " "                      | 115   | 73    | 21      | 29.5    |
| 10975              | ♂        | " " "                      | 112   | 72    | 20.8    | 28.5    |
| 1293               | ♂        | Me., Upton.                | 114.5 | 72    | 21      | 28.5    |
| 3414               | ♂        | Me., Attian Pond, Moose R. | 114.5 | 72    | 19.6    | 29      |
| 46399              | ♂        | Me., Mt. Katahdin.         | 115   | 73    | 20.2    | 29      |
| 42611              | ♂        | N. H., White Mts.          | 115   | 72.5  | 20      | 28      |
| 1292               | ♂        | N. H., Gorham.             | 114   | 74    | 21      | 30      |
| 30767              | ♂        | N. H., Megalloway R.       | 113.5 | 73.5  | 20.2    | 28      |
| 803 <sup>4</sup>   | ♂        | Me., Bangor.               | 110   | 72    | 19.8    | 26      |
| 4530               | ♂        | " "                        | 111   | 74    | 20      | 26      |
| 4529               | ♂        | " "                        | 110.5 | 74    | 19.8    | 27      |
| 26282 <sup>3</sup> | ♂        | Me., Lake Umbagog.         | 110   | 75    | 19.8    | —       |
| 9585               | ♂        | " " "                      | 110   | 74.5  | 19.6    | 26      |
| 25647              | ♂        | Me., Upton.                | 110   | 70    | 19.2    | 26.5    |
| 30768              | ♀        | N. H., Megalloway R.       | 110   | 70    | 19.2    | 26      |

<sup>1</sup> Coll. of Wm. Brewster.<sup>2</sup> Coll. of E. A. & O. Bangs.<sup>3</sup> Coll. of Wm. Brewster.<sup>4</sup> Coll. of E. A. & O. Bangs.

MEASUREMENTS OF *Picoides americanus bacatus + labradorius*.

| No.               | Sex. | Locality.       | Wing. | Tail. | Tarsus. | Culmen. |
|-------------------|------|-----------------|-------|-------|---------|---------|
| 7382 <sup>1</sup> | ♂    | Queb., Chaunay. | 113   | 75    | 20.6    | 30      |
| 7378              | ♂    | " "             | 115   | 73    | 20.2    | 30      |
| 7380              | ♂    | " "             | 114   | 73.5  | 20.2    | 29      |
| 7381              | ♂    | " "             | 113   | 75    | 20      | 29      |
| 7383              | ♂    | " "             | 113   | 72.5  | 19.8    | 26      |
| 7386              | ♂    | " "             | 112.5 | 73    | 19.2    | 25.5    |
| 7379              | ♂    | " "             | 111.5 | 75.5  | 20      | 26      |
| 7384              | ♀    | " "             | 111   | 71    | 19.2    | 26      |

MEASUREMENTS OF *Picoides americanus labradorius* BANGS.

| No.               | Sex.     | Locality.            | Wing. | Tail. | Tarsus. | Culmen. |
|-------------------|----------|----------------------|-------|-------|---------|---------|
| 1365 <sup>2</sup> | ♂ (Type) | Lab., Okak.          | 119   | 81    | 20.4    | 29      |
| 1366              | ♂        | " "                  | 116   | 73    | 21      | 29      |
| 1360              | ♂        | " "                  | 118   | 73.5  | 20.2    | 28      |
| 1370              | ♂        | Lab., Nain.          | 115   | 65    | 20      | 28.5    |
| 1367              | ♂        | " "                  | 115.5 | 61    | 21      | 29      |
| 1354              | ♂        | Lab., Hopedale.      | 116   | 77.5  | 21      | 28.5    |
| 1356              | ♂        | " "                  | 115.5 | 72    | 20.2    | 28      |
| —                 | —        | Lab., Makkovik.      | 117   | 75    | 21      | 30      |
| 4497 <sup>3</sup> | ♂        | Lab., Lance au Loup. | 115   | 73.5  | 20.2    | 30      |
| 4500              | ♂        | Lab., Black Bay.     | 116   | 74    | 21      | 28.5    |
| 4499              | ♂        | " " "                | 115   | 74    | 21      | 28      |
| 1363 <sup>2</sup> | ♂        | Lab., Okak.          | 114   | 78    | 20.2    | 27      |
| 1358              | ♂        | " "                  | 112   | 75    | 19.6    | 26      |
| 1359              | ♂        | " "                  | 112.5 | 76.5  | 20      | 26      |
| 1361              | ♂        | " "                  | 111.5 | 72.5  | 20      | 27      |
| 1362              | ♂        | " "                  | 114   | 77.5  | 19.4    | 25.5    |
| 1369              | ♂        | Lab., Nain.          | 110   | 72.5  | 19.2    | 28      |
| 1368              | ♂        | " "                  | 116   | 80    | 21      | 27.5    |
| 1355              | ♂        | Lab., Hopedale.      | 112   | 76    | 20      | 28      |
| —                 | —        | Lab., Makkovik.      | 115   | 74    | 19.2    | 26.5    |
| 4498 <sup>3</sup> | ♀        | Lab., Lance au Loup. | 114.5 | 75.5  | 20      | 27      |
|                   |          |                      |       | 75.5  | 20      | 27      |

<sup>1</sup> Coll. of Wm. Brewster.<sup>2</sup> Coll. of J. D. Sornborger.<sup>3</sup> Coll. of E. A. & O. Bangs.